

***Subcommittee of the Water Resources Coordinating Council
To Focus on Recommendations required by HF756
(WRCC Established under Iowa Code Chapter 466B)***

RECOMMENDATION SUMMARIES

2009 Iowa legislation, [HF 756](#), requires the state's Water Resources Coordinating Council ([WRCC](#)) to submit policy and funding recommendations that promote "a watershed management approach to reduce the adverse impact of future flooding on this state's residents, businesses, communities, and soil and water quality." At its meeting on June 12, 2009, the WRCC named a subcommittee to work on recommendations. Subcommittee members include:

University of Iowa -- IIHR- Hydrosience & Engineering, Iowa Flood Center: Larry Weber
Iowa State University -- Leopold Center: Jerry DeWitt, alternate Jeri Neal
University of Northern Iowa -- Center for Energy and Environmental Education: Kamyar Enshayan
Homeland Security: Tom Oswald, alternate Steve Zimmerman
U.S. Army Corps of Engineers: Jerry Skalak
IDOT: Scott Marler, alternate Dave Claman
NRCS: Rich Sims, alternate Marty Adkins
IDNR: Bill Ehm, alternate Sharon Tahtinen
IDALS: Chuck Gipp
IDED: Jessica Montana
RIO: Ken Tow, alternate Susan Judkins
USGS: Rob Middlemis-Brown, alternate Kaylene Carney

The subcommittee met on July 13, 2009, and identified four work groups to work on components of the [recommendations required by HF 756](#). Work groups had a diverse representation, including members from groups outlined in HF756 that should be consulted, including "hydrological and land use experts, representatives of cities, counties, drainage and levee districts, agricultural interests, and soil and water conservation districts, and other urban and regional planning experts." The work groups include:

- #1: Flood Plain Management and Regulation, chaired by Chuck Corell, DNR (See Exhibit 1, Page 10)
- #2: Lowland Focus: Wetland protection, restoration and construction; and conservation easements and other land management, chaired by Marty Adkins, NRCS (See Exhibit 1, Page 11)
- #3: Upland Focus: Perennial ground cover and other agricultural conservation practices; and permanent or temporary water retention structures, chaired by Tom Oswald, HSEMD (See Exhibit 1, Page 12)
- #4: Stormwater: Promulgation and implementation of statewide stormwater management standards; and pervious pavement, bioswales, and other urban conservation practices, chaired by Jessica Montana, IDED (See Exhibit 1, Page 13)

Their recommendations were considered by the subcommittee on September 15, 2009. They were edited slightly and presented for consideration 9/18/09 by the Water Resources Coordinating Council, authorized the subcommittee to solicit public input on these draft recommendations at public meetings as follows:

- 9/29/09 Mount Pleasant Civic Center, 307 East Monroe Street, 2-4 PM
 West Branch, Hoover Library and Museum, 210 Parkside Drive, 6-8 PM
- 10/6/09 Ankeny, Public Services Building, 220 W. 1st Street, Conf. Room A. 10 AM-Noon
 Waverly Civic Center, 200 E. 1st St. NE, 5-7 PM
- 10/8/09 Lewis, Wallace Foundation Learning Center, Armstrong Research Farm, 10 AM-Noon
 Storm Lake, Sunrise Pointe Municipal Golf Course, 4-6 PM

Recommendations and related exhibits follow.

WORK GROUP 1: FLOODPLAIN MANAGEMENT

FLOODPLAIN REGULATIONS

#1: The 0.2% flood should be the regulated flood plain instead of the 1% flood. This change should be phased in as the 0.2% flood plains and floodways are identified on maps approved by the Federal Emergency Management Agency. (See Exhibit 2 for diagram of 100- and 500-year flood plain).

#2: The state should prohibit development (structures, fill and other restrictions to flood flows) in the floodway of the regulated flood plain. Reconstruction of substantially damaged structures already located in the floodway should also be prohibited.

#3: The use of fill to elevate new or reconstructed structures (excluding levees) in the flood plain should be restricted to no more than three vertical feet. Other means of elevating structures should be allowed. Structures in the regulated flood plain but outside the floodway should be constructed in a manner that will reduce the damage caused by the 0.2% flood. These restrictions should be phased in as the 0.2% flood plains are identified on maps approved by the Federal Emergency Management Agency.

FLOOD CONTROL STRUCTURES (LEVEES)

#4: Areas on the landward side of a flood control levee recognized by the Federal Emergency Management Agency as protecting against the 0.2% flood should not be considered as in the 0.2% floodplain and should not be subject to the regulations for the 0.2% flood plain.

#5: Flood control levees should primarily be used to protect areas with existing development if there are no practical alternatives for mitigating damage from floods.

#6: The governor should support and endorse Alternative H in the "Upper Mississippi River Comprehensive Plan - Final Report June 2008 (Revised Aug 14, 2008)" prepared by the Army Corps of Engineers. This alternative would improve the existing levee system to provide protection from the 0.2% flood along the Mississippi River (not the tributaries). [Note: The Army Corps of Engineers employees participating in the work group did not endorse any alternative.]

#7: The state should create a grant program to help entities bear the cost of certifying existing flood control levees.

#8: The state should create a grant program to assist entities with improving existing levees as one way to meet the new 0.2% flood regulations.

PLANNING

#9: The state should create a grant program to support local planning entities for developing local flood plain management plans. Preference should be given to planning activities that benefit a region or watershed. The goal of these flood plain management plans should be to reduce the flood exposure to people and property and thereby reduce flood damages.

FLOOD RISK EDUCATION

#10: The legislature and the governor should support the formation of a local chapter of the Association of State Flood Plain Managers in Iowa that would provide a vehicle for local managers and planners to discuss flood plain issues and learn from each other.

#11: The Iowa State University Extension Service should be tasked with and appropriated funds for educating the general public about flood plains, flood risks and basic flood plain management principles. The ISU Extension Service already has a network of educators across Iowa and should develop materials and programs in consultation with flood plain experts.

CRITICAL FACILITIES

#12: New Class I Critical Facilities should be located outside the 0.2% flood plain whenever practical. New Class I Critical Facilities should also be designed and located as to maintain their function during a 0.2% flood whenever practical.

OTHER OPINIONS EXPRESSED:

Whenever possible, the workgroup tried to reach consensus on the statements and recommendations. When consensus was reached it was rarely unanimous. Below are the viewpoints of those that did not necessarily agree with the statements and recommendations above.

- ◆ *Government should not impose restrictions on the use of property. Many citizens that live in a flood plain are aware of and have accepted the risks and do not expect any help from the government.*
- ◆ *Flood control structures are not reliable enough to be used extensively in flood plain management. Any flood plain management strategy that uses structural flood controls in lieu of removing or flood proofing structures in the 0.2% flood plain is incomplete and will fail eventually. Structural controls do have their place—to protect existing development that cannot be mitigated in other ways. However, in many instances, structural controls are used because they are less intrusive and less costly and more effective mitigation measures.*
- ◆ *The geographic boundaries and the economic impacts of delineating the 0.2% flood plain area as the regulated flood plain are currently unknown. A mapping project has been recently initiated that will produce flood maps for the entire state but it will not be completed and approved by FEMA for another five to seven years. The delineation of the 0.2% flood plains and floodways should be completed in order to educate property owners and local communities and to make an informed policy decision. Some in the workgroup believe that the policy decision to move to a 0.2% regulated flood plain should wait until delineation of the 0.2% flood plains and floodways is completed and the impacts of this change analyzed before making a policy decision which will have an impact on the property rights of many Iowans including the value of their property and risk of flood damage.*

The workgroup realizes that the expanded or new policy recommendations made here have serious implications to the citizens of Iowa. Many residences and other buildings will have to be moved from the

0.2% flood plain after being damaged rather than being rebuilt in their current location. New development in the 0.2% flood plain, while not prohibited by these recommendations, will be more difficult and expensive than it is now. But the goal of these recommendations is to reduce the damage caused by flooding and that cannot be accomplished without changes in how we manage our flood plains.

Many of the workgroup members are representatives of different public interest groups. While the representatives participated with the full knowledge of the groups they represent, it should not be assumed that the groups or their representatives fully endorse the recommendations or statements made herein.

WORK GROUP 2: LOWLAND FOCUS

PLANNING & COORDINATION:

- #13:** Provide funding for watershed project planning and the implementation and maintenance of high priority flood damage reduction projects.
- #14:** Provide interagency assessment and project planning to support and inform infrastructure / easement / land purchase investment decisions in floodplain areas.
- #15:** The WRCC should move more quickly from information sharing to actual interagency program coordination.

NON-STRUCTURAL:

- #16:** Reconnect streams and rivers to their flood plains and floodways. This practice involves the modifications of levees, roads, channels and diversions. The State of Iowa should consider levee district buyouts when they are needed in order to accomplish stream-floodplain reconnections.
- #17:** Provide authority for the purchase of easements in upland areas that are part of planned flood risk reduction projects. The easements would stipulate the use of water infiltration practices that are appropriate for each situation. Practices might include contour farming, strips of perennial vegetation, ponds, wetlands, no-till, and other measures.
- #18:** Provide a means of indemnification that would allow levees to be modified or removed and floodplains to be farmed with the agreement that if there is flooding the land will be used for back up and holding water.

PROJECTS:

- #19:** Integrate multi-purpose wetlands into watersheds with drainage districts or larger drainage systems. Systems would be retrofitted to enable nutrient trapping and treatment; more water infiltration and evapotranspiration; greater retention of run-off; and habitat to support biodiversity. Maintain a holistic view of watershed management and targeting funds and programs within those watersheds.
- #20:** Drainage Water Management to allow for the seasonal retention of water in tile drained fields should be supported technically. This practice is most easily adopted in very flat landscapes. (WG Priority 6)

#21: Develop, implement, monitor and document a watershed project that has as a primary goal high infiltration of rainfall under non-saturated soil moisture conditions in both rural and urban areas.

#22: Enhance WRP, EWP, FRPP, and CRP programs with state matching funds.

#23: Conduct a cooperative pilot project for the evaluation of strategies for reducing severe scour erosion and sand deposition by floodwaters under various soils/geology conditions. Strategies would include but are not limited to levee and road modifications, reforestation and grassland seeding. This project should be part of an overall watershed plan at the HUC 8 scale or larger.

EDUCATE & INFORM:

#24: Include floodplain or alluvial soils information as part of the disclosure form used as part of real estate transactions.

#25: “I-Farm” is a farm resource management and business planning tool developed at ISU. I-Farm could help farmers plan and create infiltration systems to accommodate one inch rainfalls. I-Farm should be used by ISU Extension and other agencies to support conservation and business planning.

WORK GROUP 3: UPLAND FOCUS

PRIOR STUDY HAS YIELDED GOOD RECOMMENDATIONS THAT SHOULD BE RECONSIDERED

#26: Highlights from prior flood plain-related recommendations brought forward by water resources task forces in 2001, 2003 and 2007 should be reconsidered (See EXHIBIT 3, Page 15, incorporated by reference into this recommendation)

PILOT/DEMONSTRATION PROJECT

#27: Fund a pilot/demonstration project involving a “hybrid” of both implementation and research, implementing best practices as well as hydrologic studies at the Iowa Flood Center (U of I) and management for flood reduction

- Includes a “distributed storage” system including upland retention structures
- Site selected based on criteria including isolated community (at top of watershed) impacted in 2008, impaired waters (for funding), willingness of watershed stakeholders, geographic MLRA, flexibility to expand to larger scale, visible and quantifiable results, take advantage of other ongoing research (e.g. Iowa/Cedar Basin), input from stakeholder groups including agriculture community, livestock groups, cities, state agencies, universities, water interests (water, waste water and rural water), ability to collect soil moisture data, an area with a gaging station or recommend installation of a gage in the area
- Multi-jurisdictional effort and funding, leverage one program with another (multi-programmatic)
- Funding sources ranging from individual to all levels of government, private sector including commodity groups

#28: Manage existing water resources programs to address flood risk management

EDUCATION

#29: The Iowa State University Extension Service should be tasked with and appropriated funds for educating the general public about flood plains, flood risks and basic flood plain management principles. The ISU Extension Service already has a network of educators across Iowa and should develop materials and programs in consultation with flood plain experts. (Same as Work Group #1, recommendation #11)

#30: Conduct a hydrological tiling study to determine the impact tile drainage has on infiltration, surface runoff, and flooding. (Same as Work Group #4, recommendation #48) Consider impacts of potholes, wetlands and water retention structures.

#31: Develop a soil moisture monitoring network through the Iowa Water Center and Leopold Center, both at ISU

#32: **Make** extensive use of the NRCS Soil Conditioning Index tool. Conservation and agronomic practices that are matched to the need of the land and objective of the landowner will improve sustainability over the long term, potentially increasing profitability, reducing impacts of flooding, and improving water quality. One example of a best practice is use of perennial ground covers. An improved Soil Conditioning Index score is an indication of good agronomic and conservation practices.

#33: A media campaign is needed to let Iowans know we are all affected by, and have an impact on, watershed issues. Landowner/tenant issues should be considered as part of this campaign.

#34: Storm frequency needs to be analyzed for accuracy of predictions (i.e. basis for a “ten-year storm”)

#35: Reassess criteria for conservation practices because of changing climate.

- NRCS Field Office Technical Guide (conservation criteria)
- NRCS Engineering Field Manual (design criteria)

RESOURCES

#36: Recommend increased funding for staff at research and field levels for public and/or private sector. Watershed level planning requires effort at the research level to actual watershed level down to the field level working with individual farmers. Current staffing levels would not be sufficient to provide the technical expertise needed.

#37: Recommend multi-year state funding for the Iowa Flood Center

#38: Recognize that voters may approve a 2010 referendum question amending Iowa’s Constitution to provide that if the state raises the sales tax in the future, 3/8ths of the increase will go to a new protected account for natural resources projects, including soil and water conservation; a one-penny increase would generate about \$150 million annually which could serve as a funding source.

#39: A tax Dedicate the sales tax currently collected by public water supplies for drinking water, add sales tax on bottled water sales, and/or collect a redemption fee on bottled water similar to pop bottles, could serve as additional funding sources.

WORK GROUP 4: STORMWATER

STORMWATER REGULATION:

#40 – Utilize a Phase-In Approach to Implement Statewide Stormwater Standards Consistent with the Iowa Stormwater Management Manual

The State should require all cities and counties to implement stormwater management practices consistent with the Iowa Stormwater Management Manual (ISMM). They should be given the opportunity to develop a phased-in approach to allow sufficient time to secure necessary technical and financial assistance for effective implementation.

The ISMM presents planning and design guidelines for the management of stormwater quality and quantity in the urban environment, and encourages the use of enhanced design practices for stormwater management, including best management practices and low impact development (LID). Iowa-specific and part of the Iowa Statewide Urban Designs and Specifications (SUDAS) Manual, the ISMM outlines eleven minimum standards as community development guidelines. Statewide stormwater management standards should be applicable to new development, retrofits, redevelopment, and improvements to property.

One phased-in approach to consider could begin with:

- The 43 communities and three universities with municipal separate storm sewer systems (MS4s)
- Communities over 10,000 and counties greater than 20,000 in population
- Communities under 10,000 and counties under 20,000 in population

Before a city or county is required to implement statewide stormwater standards, they should be directed to the educational resources for stormwater management (Recommendation 8). Additionally, enhanced funding and mechanisms for raising those funds are needed (Recommendations 4-7).

#41 – Require New and Amend Renewal National Pollutant Discharge Elimination System (NPDES) MS4 Permits to Include Stormwater Best Management Practices as Outlined in the Iowa Stormwater Management Manual.

Require new and amend renewal NPDES permits to include stormwater best management practices as outlined in the ISMM. Other states are requiring statewide standards be included in a community's NPDES Phase II permit. Similarly, the ISMM section 2A-1 recommends "non-structural best management practices to be implemented to reduce pollutant sources and to reduce the transfer of urban pollutants to runoff before more expensive structural controls are instituted."¹

¹ Iowa Stormwater Management Manual, www.ctre.iastate.edu/PUBS/stormwater/index.cfm

#42 – Increase State Government’s Utilization of the Iowa Stormwater Management Manual

The State can demonstrate its commitment to effective stormwater management by requiring construction of vertical infrastructure, pursuant to 2009 Iowa Code chapter 8.57 and in suit with Recommendation 1, on State property or projects funded in full or in-part by State funds to use stormwater best management practices described in the ISMM. This commitment would provide demonstration projects to serve as an example for city and county officials and developers.

FINANCIAL:

#43 – Support and Enhance Existing Stormwater Funds; Establish a New Fund Similar to the Property Assessed Clean Energy (PACE) Program

Support and enhance the existing funds currently available for stormwater projects. Two existing funds exist: 1) the State Revolving Loan Fund provides funds for stormwater quality projects with low-interest loans to cities, counties, non-profits, developers, businesses and individuals, and 2) the Watershed Improvement Review Board (WIRB) awards competitive grants for local watershed improvements through the Watershed Improvement Fund to local watershed improvement committees, soil and water conservation districts, public water supply utilities, cities and county conservation boards. Additional funds should be made available for implementation of stormwater best practices as defined by the ISMM. The funds should also target high-growth counties because these areas typically produce more impervious surfaces, thus increased runoff.

A new funding mechanism for stormwater projects could mimic the Property Assessed Clean Energy² (PACE) Program. A PACE bond is a bond where the proceeds are lent to commercial and residential property owners to finance energy retrofits (efficiency measures and small renewable energy systems) and who then repay their loans over 20 years via an annual assessment on their property tax bill.³ PACE bonds can be issued by municipal financing districts or finance companies and the proceeds can be typically used to retrofit both commercial and residential properties.

#44 – Give Cities Authority to Establish a Connection Fee for Stormwater Drainage Utility Systems

Give cities authority to establish a connection fee for stormwater drainage system utility districts for purposes of funding construction of stormwater infrastructure. Senate File 458 (SF 458) accomplishes this goal and should be supported. SF 458 passed the Senate 32-18 on a primarily partisan vote in 2009; however, it ended in the House Ways & Means Committee. It remains alive for discussion in 2010.

#45 – Give Cities and Counties Authority to Establish a Fee System and Credit Program Based on the Amount of Impervious Surface Installed⁴

Fee System

² Property Assessed Clean Energy Program, www.pacenow.org

³ Environmental Protection Commission, publication intended to assist local stormwater managers understand the alternatives available to fund their stormwater program. www.epa.gov/npdes/pubs/region3_factsheet_funding.pdf

Cities and counties should be given the authority to establish a fee system that is based on the amount of impervious surfaces installed. For the purpose of this recommendation, impervious surface includes a surface not connected to potable water, or non-metered customers. This could include, but is not limited to, a parking lot, driveway, rights-of-way, and rail lines.

Credit Program

The goals of stormwater credit programs are to reduce or mitigate imperviousness, promote on-site stormwater management, reduce runoff volume, and promote or direct use of specific stormwater best management practices. The mechanism for fee reduction could include percent fee reduction or water quantity and water quality credits.

#46 – Allow Soil and Water Conservation Districts to Create Watershed Districts

Soil and Water Conservation Districts (SWCD) should be allowed to create watershed districts to develop integrated water management plans. Watershed districts could utilize 28E Agreements to work across county boundaries and collaboratively with local governments. The Watershed Districts could create a sustainable funding source by leveraging taxes. Iowa Code 161A would need to be amended to implement this recommendation.

STORMWATER EDUCATION:

#47 – Support and Enhance Existing Educational Efforts

Stormwater education should include and reach all parties, including, but not limited to, State, county and city officials, engineers, planners, realtors, and developers, and consider the various needs and circumstances of residential and commercial and industrial properties. Stormwater education should focus on stormwater best management practices as outlined in the ISMM, including issues of water quality, water quantity and the potential for environmental impact and damage to cities and counties. Current programs that exist within the State include the Iowa Stormwater Partnership, Iowa Stormwater Education Program, Urban Conservationists, RainScaping Iowa Initiative, and the Council of Governments. These programs' efforts should be supported and enhanced to reach a larger audience and provide more technical assistance as stormwater standards are phased-in and stormwater best management practices are implemented (Recommendation 1).

#48 – Conduct a Hydrological Tiling Study

There is a general lack of understanding of how tile drainage functions. Some think more tile drainage means more flooding; while others think it is unlikely that tile flow alone could cause out of control bank flows and might even reduce peak flows by helping the landscape infiltrate more rainfall and shed less runoff. A scientific hydrologic study is needed to determine the impact of tile drainage on infiltration, surface runoff, and flooding.

EXHIBIT 1 – WORK GROUPS
Water Resources Coordinating Council

Floodplain Subcommittee - Regulation Work Group #1

Contact List

Name	Department	Email	Phone #
Chuck Corell, Chair	Iowa Department of Natural Resources	chuck.corell@dnr.iowa.gov	515-281-4582
Angel Robinson	Iowa Insurance Division	angel.robinson@iid.iowa.gov	515-281-4038
Bill Cappuccio	Iowa Department of Natural Resources	bill.cappuccio@dnr.iowa.gov	515-281-8942
Brian Schoon	INRCOG	Bschoon@inrcog.org	319-235-0311
Chris Gruenhagen	Iowa Farm Bureau Federation	cgruenhagen@ifbf.org	515-225-5528
Dave Claman	IDOT	David.Claman@dot.iowa.gov	515-239-1487
Jeff Hanan	Southeast Iowa Regional Planning Commission	jhanan@seirpc.com	319-753-5107
Jerry Skalak	Corps of Engineers, Rock Island District	Jerry.A.Skalak@usace.army.mil	309-794-5605
Jessica Harder	Iowa League of Cities	jessicaharder@iowaleague.org	515-244-7282
Josh Cox	HSEMD	josh.cox@iowa.gov	515-251-3675
Julie Tallman	Iowa City Building Dept.	Julie-Tallman@iowa-city.org	319-356-5132
Kamyar Enshayan	Center for Energy & Environmental Education	kamyar.enshayan@uni.edu	319-273-7575
Kay Mocha	Pottawattamie County Zoning	kay.mocha@pottcounty.com	712-328-5792
Kim Johnson	Buena Vista County Zoning	kjohnson@co.buena-vista.ia.us	712-749-2555
Marty Ryan	Cedar Falls City Planner	marty.ryan@cedarfalls.com	319-273-8606
Mike Raes	HSEMD	michael.raes@iowa.gov	515-725-3273
Nathan Young	Iowa Flood Center	nathan-young@uiowa.edu	319-384-1732
Susan Dixon	Rebuild Iowa Office	susan.dixon@rio.iowa.gov	515-238-4537
Ted Corrigan	Des Moines Water Works	corrigan@dmww.com	515-283-8751
Vicki Stoller	Two Rivers Levee & Drainage Assoc.	Rivers@mepotelco.net	319-937-6667

Water Resources Coordinating Council

Floodplain Subcommittee - Lowland Work Group #2

Contact List

Name	Department	Email	Phone #
Martin Adkins, Chair	USGS - NRCS	Martin.Adkins@ia.usda.gov	515-577-0904
Annette Mansheim	Rebuild Iowa Office	Annette.Mansheim@rio.iowa.gov	515-242-5544
Dennis McAllister	Des Moines Water Works	dmcallister@dmww.com	515-283-6230
Derryl McLaren	Farmer	Derryl@derrylmclaren.com	515-669-4652
Duane Sand	Iowa National Heritage Foundation	dsand@inhf.org	515-288-1846
Jean Eells, PhD	E Resources Group	jceells@wmtel.net	515-297-0701
Jennifer Filipiak	The Nature Conservancy	jfilipiak@TNC.org	515-244-5044
Jerry DeWitt	Leopold Center	jdewitt@iastate.edu	
Mark Ackelson	Iowa National Heritage Foundation	mackelson@inhf.org	
Nate Bonnett	Iowa State Association of Counties	nbonnett@iowacounties.org	515-244-7181
Rob Middlemis-Brown	USGS Iowa Water Science Center	rgbrown@usgs.gov	319-358-3600
Scott Marler	Iowa Department of Transportation	Scott.Marler@dot.iowa.gov	515-239-1520
Steve Zimmerman	Homeland Security & Emergency Management Dept	Steve.zimmerman@iowa.gov	515-725-3275
Todd Bishop	Iowa DNR	Todd.Bishop@dnr.iowa.gov	515-238-6461
Tom Oswald	Homeland Security & Emergency Management Dept	thomas.oswald@iowa.gov	515-729-4593

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Floodplain Subcommittee - Upland Work Group #3

Contact List

Name	Department	Email	Phone #
Tom Oswald, Chair	Iowa HSEMD	tom.oswald@iowa.gov	515-729-4593
Susan Judkins Josten	Rebuild Iowa Office	susan.judkins@rio.iowa.gov	515-242-5503
Cathie Graves	IDALS	cathie.graves@iowaagriculture.gov	515-281-5853
Hillary Olson	Iowa Water Center	holson01@iastate.edu	515-294-7467
Jennfer Puffer	Des Moines Water Works	puffer@dmww.com	515-323-6218
Jeri Neal	Leopold Center for Sustainable Agriculture	wink@iastate.edu	515-294-5610
Jim Gillespie	IDALS	jim.gillespie@iowaagriculture.gov	515-281-7043
John Goode	Monroe County Engineer	jgoode@monroecoia.us	641-932-7123
John Myers	NRCS	john.myers@ia.usda.gov	515-323-2223
Kelly Smith	DNR Private Lands Coordinator	kelly.smith@dnr.iowa.gov	515-281-6247
Ken Tow	Rebuild Iowa Office	Kenneth.tow@rio.iowa.gov	515-281-4005
Kirk Siegle	Producer/Iowa Corn Growers	ksiegle@louisacomm.net	319-766-2509
Larry Weber	University of Iowa	larry-weber@uiowa.edu	319-335-5597
Leah Maass	Producer	fammaass@netins.net	515-836-4781
Linda Kinman	Des Moines Water Works	kinman@dmww.com	515-283-8706
Paul Assman	Crawford County Engineer	cracoeng@frontiernet.net	712-263-2449
Rick Cruse	Iowa Water Center	rmc@iastate.edu	515-294-7850
Rick Robinson	Iowa Farm Bureau Federation	rrobinson@ifbf.org	515-225-5432
Steve Hopkins	Iowa DNR	stephen.hopkins@dnr.iowa.gov	515-281-6402
Witold F. Krajewski	Iowa Flood Center	witold-krajewski@uiowa.edu	319-355-5231

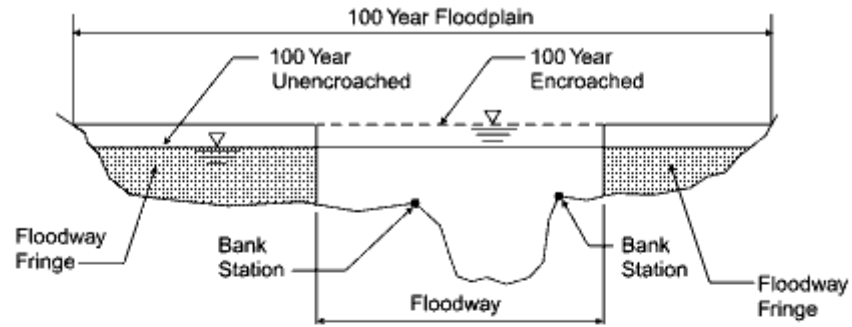
Water Resources Coordinating Council

Floodplain Subcommittee – Storm Water Work Group #4

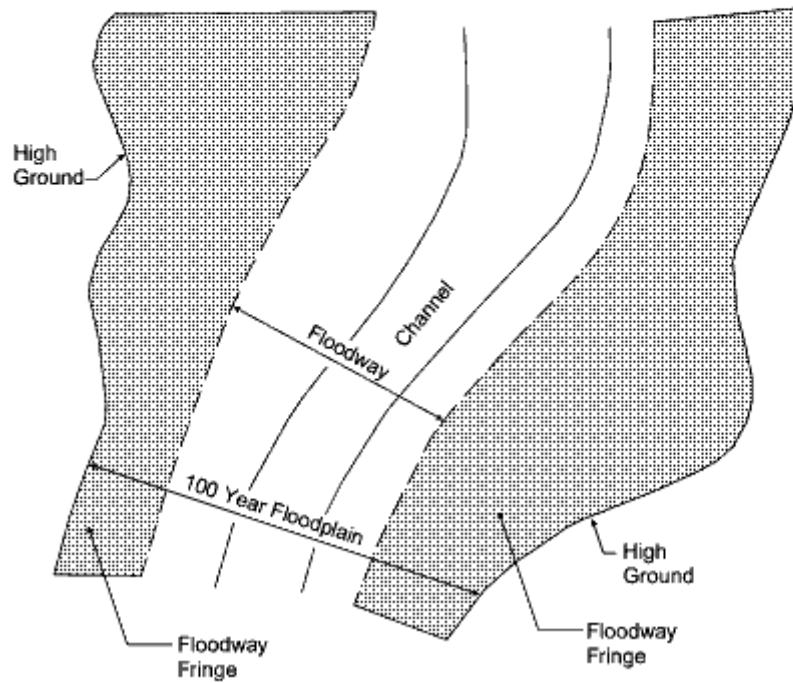
Contact List

Name	Department	Email	Phone #
Jessica Montana, Chair	IDED	Jessica.montana@iowalifechaing.com	(515) 725-3124
Aaron Todd	RIO	Aaron.Todd@iowa.gov	(515) 242-5299
Annette Mansheim	RIO	Annette.Mansheim@rio.iowa.gov	(515) 242-5299
Bill Ehm	IDNR	William.ehm@dnr.iowa.gov	(515) 281-4701
Chris Whitaker	IARC	cwhitaker@region12cog.org	(712) 775-7811
Diane Foss	IDED	Diane.Foss@iowalifechanging.com	(515) 725-3016
Doug Adamson	RDG	dadamson@rdgusa.com	(515) 473-6373
Emily Piper	IRWA	emily80@mchsi.com	(515) 202-7772
Hank Manning	IDED	Hank.manning@iowalifechanging.com	(515) 725-3071
James Wiese	HSEMD	James.Wiese@iowa.gov	(515) 725-3247
Jamie Cashman	IGOV	Jamie.cashman@iowa.gov	(515) 281-0130
Jeff Berckes	IDNR	Jeff.Berckes@dnr.iowa.gov	(515) 281-4791
Jeff Geerts	IDED	Jeff.geerts@iowalifechanging.com	(515) 725-3069
Jennifer Welch	SWCD	jennifer.welch@ia.nacdn.net	(515) 964-1883
Jessica Harder	Iowa League of Cities	jessicaharder@iowaleague.org	(515) 974-5312
Joe Griffin	IDNR	Joe.griffin@dnr.iowa.gov	(515) 281-7017
John Peterson	American Planning Association, Iowa Chapter	jpeterson@ankenyiowa.gov	(515) 963-3550
Julie Smith	J.A. Smith Law	jasmithlaw@mchsi.com	515-210-6616
Kay Mocha	Pottawattamie County	Kay.mocha@pottcounty.com	(712) 328-5792
Mark Nahra	Woodbury County	mnahra@sioux-city.org	(712) 279-6484
Megan Osweiler	Iowa League of Cities	meganosweiler@iowaleague.org	(515)822-1314
Pat Sauer	IAMU	psauer@iamu.org	(515) 289-1999
Patterson, Craig	Professional Developers of Iowa	craig@ialobby.com	(515) 554-7920
Scott Ralston	RDG	sralston@rdgusa.com	(515)208-0713
Tom Drzycimski	County	tdrzyci@co.cerro-gordo.ia.us	(641) 421-3075
Tony Toigo	IDALS	Tony.Toigo@iowaagriculture.gov	(515) 281-6148
Wayne Gieselman	IDNR	Wayne.Gieselman@dnr.iowa.gov	(515) 281-5817
Wayne Peterson	IDALS	Wayne.Petersen@iowaagriculture.gov	(515) 281-5833

EXHIBIT 2



(a) Cross Section



(b) Plan View

EXHIBIT 3 – RECOMMENDATIONS PRIOR TO 2008 DISASTERS

This document is a compilation of the recommendations made by the Iowa Watershed Task Force in 2001, the Iowa Water Summit in 2003 and the Iowa Watershed Quality Planning Task force in 2007. Recommendations are incorporated into Recommendation #1 of WRCC Work Group 3.

IOWA WATERSHED TASKFORCE, 2001

Goal: Develop a Framework for Enhanced Cooperation and Coordination

Recommendations

1. Establish an on-going coordinating body to continue to address the watershed issues identified by this task force. Include similar representation from state, federal, and local agencies, nonprofits and commercial interests, as on the Watershed Task Force.

Create a “home” for coordinating entity within the Iowa Department of Agriculture and Land Stewardship – Division of Soil Conservation.

Specific services and/or functions provided by the water resources coordination body will include:

- serving as a liaison and point of contact on watershed issues with key resource and service providers linking state and federal agencies with local watershed interests;
- facilitating the connection and integration of programs/strategies currently done independently (example: wellhead protection and hazard mitigation);
- collaborating on opportunities for watershed-related training, development of a watershed clearinghouse of information and resources and development of Geographic Information System resources;
- building consensus on watershed issues among state, federal and local authorities; and
- developing an annual update on watershed programs, reporting on the progress to address the recommendations in this Watershed Task Force and other priorities established by the coordinating body.

2. Conduct a statewide needs assessment, in cooperation with appropriate local and federal entities, to identify and quantify water resource problems and funding needs. Base on each 11-digit HUC watershed in the state. Parameters for the inventory will include: land use, water uses, population, major point [43](#) and non-point sources of pollutants, floodplain management issues, identification of drinking water sources, existing water resource management practices and costs of estimated remediation practices.

Goal: Increase State Support for Watershed Protection

Recommendations

1. Establish a legislative study committee to explore in more detail the specific needs for financial support for watershed-related programs and sources of funding that could be utilized beyond the state’s General Fund. Higher levels of funding for water-related programs are critical to achieve the basic goals identified in this Task Force report, and to take better advantage of opportunities to leverage funds available from federal and other sources. Creative options that should be considered include additional mechanisms to charge fees based on polluting products or activities, credit trading, a usage-based tax added to water and sewer bills, a fraction of a percentage sales tax such as in Missouri, or a low-interest revolving loan fund similar to the Clean Water Act State Revolving Fund that is now used for sewer infrastructure projects.

2. Encourage state agencies with responsibilities for programs that impact the landscape, including the departments of transportation and economic development, to provide more active leadership and accountability in conducting programs consistent with principles of sound watershed and floodplain management. Positive examples at the state level will set the stage for positive actions by local governments and individuals. First steps should be to assist staff with additional training and to review laws and authorities that relate to watershed and floodplain management activities, identifying needed readjustments or changes so that watersheds become a primary organizational focus for doing business rather than an add-on issue.

3. Establish an ongoing, staffed watershed clearinghouse for data and grant information. All government programs that fall under the umbrella of watershed management would provide detailed project information to the clearinghouse, based on an established, consistent format (see Appendix 4: Program Description Template for a Watershed Clearinghouse). The recommended location for the clearinghouse would be Iowa State University Extension, based on the model of the Missouri Watershed Information Network.

Practical tools for regional and local contacts and groups could include information such as:

- GIS maps of watershed units at different hydrologic scales
- Model of assessment, planning and evaluation worksheets
- Examples of watershed action plans from Iowa or the region
- Models for convening a group of representative stakeholders, with examples of different types of facilitation and surveys for landowner and residents
- Template news releases for publicity
- Data on water quality and quantity, and other issues identified by state coordination group
- Lists of technical and financial assistance for watershed efforts

4. Support the statewide water quality monitoring plan, developed by the Iowa Department of Natural Resources (IDNR), with additional resources to move forward to finalize the plan and achieve priority goals, including meeting legislative requirements to provide credible data (see discussion in Section IV: Essential Tools for Watersheds).

5. Continue funding for GIS programs, as described by the Iowa Water Quality Initiative, and insure that local watershed organizations have free access and training to use computerized landscape information managed by the IDNR, the Iowa Geographic Information Council and other entities. Adequate staffing is critical to help people who do not have GIS technical resources or staff capacity. Establish a repository for GIS data produced for completed and on-going watershed projects, and link to the watershed clearinghouse.

6. Develop a sustainable, smart growth development initiative to address watershed goals, or consider expanding existing efforts like IDNR's "Rebuild Iowa" program that currently works with local communities primarily to address energy efficiency issues.

Goal: Build Local Capacity for Watershed Initiatives

Recommendations

1. Encourage and assist development of local watershed councils by providing state support and technical assistance. Local soil and water conservation districts will be the focal point for assistance, providing leadership and a point of contact for local watershed initiatives.

2. Revise current state watershed grant program guidelines to better support local watershed-oriented planning and implementation initiatives. Provide structure while allowing flexibility. Establish an ad-hoc committee that includes local watershed project coordinators to review procedures and consider items

such as development of standard evaluation format and/or procedures that will provide a “base” set of reporting requirements to reduce paperwork, improve consistency and allow more effective quantification of results and comparisons between projects.

3. Increase the emphasis on watershed planning in grant programs. Make resources available to build local capacity in communities or regions for planning-related activities, such as problem assessment, outreach and group facilitation. Groups may also benefit from legal assistance to utilize opportunities for organizing under existing “subdistrict” legislation that applies to lake and water districts, sanitary districts or soil and water conservation districts.

Goal: Emphasize the Role of Watershed Efforts in Flood Hazard Mitigation

Recommendations

1. Work cooperatively with all levels of government to fund development and periodic updating of a system of floodplain mapping that is standardized and available on geographic information systems so that information on flood hazards is available in every community.
2. Fund increased floodplain education for local governments. Provide incentives for county government to better enforce existing floodplain laws and to develop tighter restrictions on new development in floodplain areas that are particularly hazard-prone.
3. Strengthen procedures for conducting environmental review of economic development funding when projects are proposed in flood-prone areas. Appropriate, low-impact development should be encouraged, and commercial and/or residential development discouraged in those areas. Guidelines should be established by the statewide coordination body that include a reporting procedure to document review process and resulting decisions.
4. Continue working to strengthen coordination between planning efforts in the areas of hazard mitigation, economic development and watershed protection.

Goal: Encourage Citizen Involvement

Recommendations

1. Initiate a public outreach and marketing campaign to build on existing and past efforts to increase awareness and appreciation of watershed issues. Work closely with local and regional watershed leaders to develop.
2. Continue to encourage involvement by diverse stakeholders in developing and leading watershed projects. Include nonprofit organizations, commercial interests and interested individuals, along with representatives of state, local and/or federal agencies. Where appropriate, provide financial assistance to bring in neutral facilitators skilled in community development to help build capacity for citizen leadership and decision-making. Also, provide additional training for state and local agency staff in working effectively with the public and encouraging citizen participation.
3. Support education efforts with youth and adults that heighten awareness, develop understanding and support local engagement on watershed issues. Effective programs to support include the Iowa Envirothon and aquatic education programs for youth, and the IOWATER citizen water quality monitoring and Adopt-a-Stream programs that primarily involve adults.
4. Increase the emphasis on addressing local social and economic issues in watershed programs.

IOWA WATER SUMMIT, 2003

RECOMMENDATION

- Develop a plan for building local capacity for watershed councils using principles set forward in the Watershed Task Force Report
- Utilize existing authority under Iowa Code for watershed improvement. Optimize the ability to leverage additional resources at the local level. The Iowa Department of Agriculture and Land Stewardship, Soil Conservation Districts should provide the leadership to develop a funding coordination plan. (Drainage districts, watershed sub-districts, storm water utilities, 28E agreements, etc.)

RECOMMENDATION

Dedicated and sustainable state funding to protect water quality in Iowa by:

- Increased priority ranking of Environment First Fund,
- Re-direct sales tax collected on drinking and bottled water,
- Utilize revenues from the lottery and develop an unending dedicated game focusing on Iowa's natural resources,
- All fees and fines used to re-capture costs and reinvest in water quality in the affected area, and,
- Expand remediation role of the Iowa Underground Storage Tank Fund to better protect groundwater and surface water.

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RECOMMENDATION

- To receive Tax Increment Financing (TIF) or economic development grants the applicant must assure water quality protection and improvement where possible.

RECOMMENDATION

- Municipal wastewater permit fees should at least cover the cost of program administration.

RECOMMENDATION

- Accelerate research and demonstration projects for alternative methods of management and improvement of aging drainage infrastructure systems emphasizing agronomic, economic and water quality issues. Recommend the Governor appoint a state university to lead this effort and appoint an advisory board of stakeholders to develop a plan identifying work elements, time frames and costs.

RECOMMENDATION

- Streamline the SRF loan process and implement a continuous loan process for the Clean Water and Drinking Water State Revolving Loan Fund (SRF) by putting an experienced lending entity in charge of loans.
- Appoint a permanent SRF advisory committee of stakeholders to assess the efficiencies and effectiveness of the program and make recommendations for processing reform and financing terms.
- Maximize the leverage of EPA's capitalization grants. Loan programs should generate sufficient income to fund administration of the loan program and contribute to clean water programs.
- Increase use of Clean Water SRF for non-point source programs
- Increase use of Drinking Water SRF set-aside for source water protection
- Assist *Sponsored Projects (1)* for watershed improvement under the Clean and Drinking Water SRF.

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RECOMMENDATION

- The Governor has the leadership responsibility to coordinate funding, staff and programs to improve the effectiveness of all state programs with water resource related responsibilities. Therefore, the

Governor through Executive Order should insist on cooperation and coordination between all state agencies. The Governor should issue invitations to local, federal and public agencies, non-profit organizations and businesses to participate in addressing any resource impacting water quality and watershed management.

-Once ordered the Governor with input from a stakeholder group will initiate, oversee, and implement a needs assessment and a clean water action plan.

-Improve results based targeting of state resources for water quality. (The best outcome for the dollars invested.)

RECOMMENDATION

-The Governor, legislature and Iowa's Congressional Delegates have a responsibility to work for changes in federal funding and policy issues to better target Midwestern states water quality issues.

-Develop a multi state coalition to lobby for changes in current and future federal water quality funding and policies

-Work with appropriate federal agencies to accelerate technical and financial assistance for water quality issues in the Midwest.

-Seek a special designation from the U.S. Environmental Protection Agency and the U.S. Dept. of Agriculture to act as a pilot project for water quality enhancement and improvement programs. The pilot project would include access to federal funds to target measurable, results-based watershed projects to reduce nitrogen and phosphorus in Iowa.

-Within the Conservation Title of the current Farm Bill use all appropriate funding tools such as the Conservation Security Program to improve water quality.

WATERSHED QUALITY PLANNING TASK FORCE, 2007

1. **Creation of a Water Resource Coordinating Council.** The WRCC under the direction of the Governor is recommended with a common goal to develop an integrated approach to water resource management, and which recognizes the insufficiency of current approaches, programs, practices, funding and utilization of current funding programs. This approach seeks to overcome old polarities such as quantity versus quality, land versus water, the chemical versus the physical and biological, supply versus demand, political boundaries versus hydrologic boundaries and point versus non-point. This approach seeks to manage water comprehensively rather than compartmentally. The purpose of this recommendation is to coordinate programs, not to duplicate or supersede agency authorities and responsibilities. **Funding Recommendation: None**
2. **Develop a Water Quality Research and Marketing Campaign.** The task force recommends a marketing campaign be undertaken by public agencies and other organizations to rekindle the conservation ethic in all Iowans. Surveys indicate citizen's desire for improvement in water quality. Other surveys show that citizens don't understand the problems with local water quality. **Funding Recommendation: \$1 million for year one development**
3. **Larger (Regional) Watershed Assessment, Planning and Prioritization.** The state should support creating, publishing and updating periodically a Regional Watershed Assessment (RWA) program at a larger watershed scale, such as the Hydrologic Unit Code (HUC – a federal term that delineates watersheds) 8 scale. There are approximately 56 HUC 8 size watershed units delineated in Iowa. A goal is to assess 11 HUC 8 size watersheds per year for 5 years to eventually cover the entire state. The Rapid Watershed Assessment tool used by Iowa NRCS, for example, is one assessment process that may be used. A regular review and update of these assessments should also be planned. **Funding recommendation: \$5 million annually**
4. **Smaller (Community-Based) Watershed Assessment, Planning, Prioritization and Implementation.** Once a regional watershed assessment is completed at the HUC 8 scale, planned projects of a manageable scope can be implemented. Priority sub-watersheds at a HUC 12 or smaller scale can reasonably be recruited and provided more resources for planning. A sub-watershed plan should include objectives, a thorough local assessment of the physical, social, and financial resources of the watershed, an analysis of the alternatives, and an implementation plan that includes an evaluation process to measure results. **Funding Recommendation: \$5 million annually.**
5. **Support for Smaller (Community-Based) Watershed Monitoring and Measurement.** In addition to current support for water monitoring, the state should provide technical and financial support for locally-based watershed monitoring and measurement. This monitoring would be custom designed to provide information on essential water resource questions facing the community. Local communities would first be able to use this information to support enhanced planning, local data collection, and thus helping them identify priority areas to target limited resources. **Funding Recommendations: \$2.5 million annually.**

6. **Wastewater and Stormwater Treatment Infrastructure.** We all live in a watershed. Impacts to water quality come from a variety of sources, including both rural and urban, nonpoint and point sources. Challenges for point sources and communities can have a significant impact on watershed conditions from storm water and wastewater. Aging wastewater and combined sewer/storm water infrastructure issues are having negative impacts on water quality. Also, compliance with current and future water quality standards may be cost-prohibitive for many communities. **Funding Recommendation: None.**

DRAFT

EXHIBIT 4

PRELIMINARY LIST: STATUS OF PRIOR FLOOD PLAIN MANAGEMENT-RELATED LEGISLATION

Compiled by Legislative Services Agency:

2002

SF 2145/hf2469 Water Quality Improvements -- passed but not floodplain

HCR 106 Water Quality Interim Study Resolution --water quality interim committee resolution but didn't pass

SF 2213 Clean Water Revolving Loan --not floodplain and did not pass

2003

HF 525 Environmental Oversight Council -- passed house not senate and created a new Committee

HF 495 Flooding Prevention Act --introduced in Local Government Committee but never passed

2004

HF 2120 Water Quality Interim Study -- Did not pass

HF 2104 Watershed Districts --Created a watershed task force. Did not pass

2005

HF 200 Clean Water Standards--WIRB was established and projects can included in floodplain

SF 329 Water Quality Program -- didn't pass

HF 291 Water Quality Protection Fund -- didn't pass

2006

SF 2363 Water Quality Standards -- passed

2007

SF 495 Water Quality Initiative --didn't pass

SF 600 Water Quality Program --didn't pass

HF 626 Water Quality annual assessment -didn't pass

2008

HF 2672 Water Resource Management Appropriations Bill -- didn't pass

2009

SF 367 -- Floodplain Urban Standards -- didn't pass

HF 742 Flood Recovery Bill -- didn't pass

HF 268 Floodplain Map Plan --- didn't pass

HF 759-- Flood Insurance for Cities & Counties -- passed

SSB 1069 -- Flood Impact Prevention -- didn't pass

SF 370 -- Flood Center Basin Study -- didn't pass

SF 458 -- Storm Water Fees -- didn't pass

HF 756 -- Floodplain Management Recommendations -- passed